

Application No. 10/058,306

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A semiconductor circuit component capable of being driven when an externally provided switch unit is turned on to supply a first power supply voltage to said semiconductor circuit component,

said semiconductor circuit component comprising:

a load-control semiconductor switching device with a control terminal;

a control signal supply circuit for supplying a control signal to said control terminal of said load-control semiconductor switching device to drive said load-control semiconductor

switching device, and coupled to a third power supply voltage; and

a drive control circuit for controlling the control signal supply circuit in a manner so that, only when said switch unit is turned on, a second power supply voltage is supplied from said drive control circuit to said control signal supply circuit to make said control signal supply circuit output the control signal, wherein said second power supply voltage is less than said third power supply voltage.

2. (Previously Presented) The semiconductor circuit component according to

claim 1, wherein

said drive control circuit is disposed between the first and the second power supply voltages and in series with said switch unit, so that only when said switch unit is turned on, the second power supply voltage is supplied from said drive control circuit to said control signal supply circuit.

3. (Previously Presented) The semiconductor circuit component according to

claim 2, wherein

said drive control circuit comprises:

Application No. 10/058,306

a drive-control semiconductor switching device with a control terminal; and  
a voltage supply circuit for supplying a drive voltage to said control terminal of said  
drive-control semiconductor switching device when said switch unit is turned on and the first  
power supply voltage is supplied to said voltage supply circuit, and wherein  
said drive-control semiconductor switching device performs drive control so that the  
second power supply voltage is supplied from said drive-control semiconductor switching  
device to said control signal supply circuit when the drive voltage is supplied to said drive-  
control semiconductor switching device from said voltage supply circuit to drive said drive-  
control semiconductor switching device.

4. (Currently Amended) The semiconductor circuit component according to  
claim 3, wherein  
said voltage supply circuit comprises:  
a voltage dividing circuit for dividing the first power supply voltage supplied through  
said switch unit, and  
a voltage suppressing circuit for suppressing a partial voltage into a predetermined  
value, the partial voltage being obtained by said voltage dividing circuit.
5. (Currently Amended) The semiconductor circuit component according to  
claim 3, wherein  
said drive-control semiconductor switching device has one end connected to a ground  
end of said control signal supply circuit while the ground end is grounded through the other  
end of said drive-control semiconductor switching device, so that when a drive voltage is  
supplied to said drive-control semiconductor switching device from said voltage supply  
circuit to drive said drive-control semiconductor switching device, the second power supply  
voltage is supplied from said drive-control semiconductor switching device to said control  
signal supply circuit.

Application No. 10/058,306

6. (Currently Amended) The semiconductor circuit component according to claim 5, further comprising:

a first externally leading-out terminal connected to a power input end of said voltage supply circuit while connected to the first power supply voltage through said switch unit;

a second externally leading-out terminal connected to the other end of said drive-control semiconductor switching device while connected to the ground;

a third externally leading-out terminal connected to one end of said load-control semiconductor switching device and to a power input end of said control signal supply circuit while connected to said third power supply voltage; and

a fourth externally leading-out terminal connected to the other end of said load-control semiconductor switching device while connected to a load.

7. (Currently Amended) The semiconductor circuit component according to

claim 3, wherein

said drive-control semiconductor switching device has one end connected to a power input end of said control signal supply circuit while the power input end is connected to said third power supply voltage through the other end of said drive-control semiconductor switching device so that, when a drive voltage is supplied from said voltage supply circuit to said drive-control semiconductor switching device to drive said drive-control semiconductor switching device, the third power supply voltage is supplied from said drive-control semiconductor switching device to said control signal supply circuit.

8. (Currently Amended) The semiconductor circuit component according to

claim 7, further comprising:

a first externally leading-out terminal connected to the other end of said drive-control semiconductor switching device and to one end of said load-control semiconductor switching device while connected to said third power supply voltage;

Application No. 10/058,306

a second externally leading-out terminal connected to a ground end of the voltage supply circuit while connected to the ground through said switch unit;  
a third externally leading-out terminal connected to the other end of said load-control semiconductor switching device while connected to said load; and  
a fourth externally leading-out terminal connected to a ground end of said control signal supply circuit while connected to the ground.

9. (Previously Presented) The semiconductor circuit component according to

claim 1, wherein

    said drive control circuit has first and second drive control circuits, and  
    said switch unit has first and second switch units, and wherein  
    said first drive control circuit is connected in series with said first switch unit between  
    the first and second power supply voltages,  
    said second drive control circuit is connected in series with said second switch unit  
    between said first and second power supply voltages,  
    so that only when said first and second switch units are turned on, at least one of the  
    first and second power supply voltages is supplied from said drive control circuit to said  
    control signal supply circuit.

10. (Previously Presented) The semiconductor circuit component according to

claim 9, wherein

    said first drive control circuit comprises:  
    a first drive-control semiconductor switching device with a control terminal, and  
    a first voltage supply circuit for supplying a drive voltage to said control terminal of  
    said first drive-control semiconductor switching device, upon turning on said first switch unit,  
    by supplying one of the first and second power supply voltages to said first voltage supply  
    circuit,

Application No. 10/058,306

said second drive control circuit comprises:

a second drive-control semiconductor switching device with a control terminal, and  
a second voltage supply circuit for supplying a drive voltage to said control terminal  
of said second drive-control semiconductor switching device, upon turning on said second  
switch unit, by supplying another one of the first and second power supply voltages to said  
second voltage supply circuit, and wherein

when said first and second drive-control semiconductor switching devices are  
supplied with drive voltages from said first and second voltage supply circuits respectively,  
the first and second power supply voltages are supplied from said first and second drive-  
control semiconductor switching devices to said control signal supply circuit.

11. (Previously Presented) The semiconductor circuit component according to

claim 10, wherein

said first voltage supply circuit comprises:

a first voltage dividing circuit for dividing the one of the first and second power  
supply voltages supplied through said first switch unit, and  
a first voltage suppressing circuit for suppressing a partial voltage into a  
predetermined value, the partial voltage being obtained by said first voltage dividing circuit;  
and

said second voltage supply circuit comprises:

a second voltage dividing circuit for dividing the other of the first and second power  
supply voltages supplied through said second switch unit, and  
a second voltage suppressing circuit for suppressing a partial voltage into a  
predetermined value, the partial voltage being obtained by said second voltage dividing  
circuit.

Application No. 10/058,306

12. (Previously Presented) The semiconductor circuit component according to claim 10, wherein

said first drive-control semiconductor switching device is formed to have one end connected to a ground end of said control signal supply circuit while said ground end is connected through the other end of said first drive-control semiconductor switching device to one of the first and the second power supply voltages, and

said second drive-control semiconductor switching device is formed to have one end connected to a power input end of said control signal supply circuit while said power input end is connected to an other one of the first and second power supply voltages through the other end of said second drive-control semiconductor switching device,

so that when a drive voltage is supplied from said first voltage supply circuit to said first drive-control semiconductor switching device to drive said first drive-control semiconductor switching device,

and when a drive voltage is supplied from said second voltage supply circuit to said second drive-control semiconductor switching device to drive said second drive-control semiconductor switching device,

the first and second power supply voltages are supplied from said first and second drive-control semiconductor switching devices to said control signal supply circuit.

13. (Previously Presented) The semiconductor circuit component according to claim 12, further comprising:

a first externally leading-out terminal connected to a power input end of said first voltage supply circuit while connected to one of said first and second power supply voltages through said first switch unit;

Application No. 10/058,306

a second externally leading-out terminal connected to a ground end of said second voltage supply circuit while connected to an other one of said first and second power supply voltages through said second switch unit;

a third externally leading-out terminal connected to the other end of said second drive-control semiconductor switching device and to one end of said load-control semiconductor switching device while connected to the one of the first and second power supply voltages;

a fourth externally leading-out terminal connected to the other end of said load-control semiconductor switching device while connected to said load; and

a fifth externally leading-out terminal connected to the other end of said first drive-control semiconductor switching device while connected to the ground.

14. (Currently Amended) A semiconductor circuit component capable of being driven when an externally provided switch unit is turned on to supply a first power supply voltage to said semiconductor circuit component, comprising:

switching means for switching power to a load;

control signal supply means for supplying a control signal to a control terminal of said switching means; and coupled to a third power supply voltage; and  
power voltage supply drive control means for supplying controlling the a supply of a  
second power supply voltage to the control signal supply means only when the switch unit is turned on, and for making said control signal supply means output the control signal, wherein  
said second power supply voltage is less than said third power supply voltage.

15. (Currently Amended) A method for driving a semiconductor circuit component, comprising:

turning on a switch unit to supply a first power supply voltage to said semiconductor circuit component;

Application No. 10/058,306

supplying a second power supply voltage to a control signal supply circuit coupled to a third power supply voltage, only when said switch unit is turned on, the second power supply voltage is supplied to make the control signal supply circuit output a control signal, wherein said second power supply voltage is less than said third power supply voltage; supplying the control signal to the load-control semiconductor switching device; and switching power to a load based on the control signal.